Operators Manual
M3 Manual Underpinner

Only Use Genuine Framers Corner Universal Wedges

Oure Wedges are 10.3mm Wide, Available In Softwood And Hardwood Type.

CE

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M3 Technical Specification

Moulding Width (Using Rebate Clamp)	0-60mm
Moulding Width (Without Clamp)	0-100mm
Moulding Height	0-100mm
Pin Placement from Back Corner	0-110mm
Wedge Sizes	7 to 15mm
Underpinner Dimensions (WxDxH)	730mm x 800mm x 1110mm
Weight	30kg
Warranty	1 year

GENERAL SAFETY RULES

WARNING: Do not attempt to operate the machine until you have read thoroughly and understood completely all instructions, rules, etc. contained in this manual. Failure to comply may result in accidents involving serious personal injury. Keep this owner's manual and review frequently for continuous safe operation.

1. Know your machine. For your own safety, read the owner's manual carefully. Learn its application and limitations, as well as specific potential hazards pertinent to this machine.

2. Keep guards in place and in working order. If a guard must be removed for maintenance or cleaning, make sure it is properly replaced before using the machine again.

3. Remove adjusting keys and spanners. Form a habit of checking to see that the keys and adjusting spanners are removed from the machine before operating it.

4. Keep your work area clean. Cluttered areas and workbenches increase the chance of an accident.

5. Do not use in dangerous environments. Do not use power tools in damp or wet locations, or expose them to rain. Keep work areas well illuminated.

6. Keep children away. All visitors should be kept a safe distance from the work area.

7. Use the right tools. Do not force the machine or attachments to do a job for which they are not designed. Contact the manufacturer or distributor if there is any question about the machine's suitability for a particular job.

8. Wear proper apparel. Avoid loose clothing, gloves, ties, rings, bracelets, and jewellery which could get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.

9. Always use safety glasses. Normal spectacles only have impact resistant lenses. They are not safety glasses.

10. Do not over-reach. Keep proper footing and balance at all times.

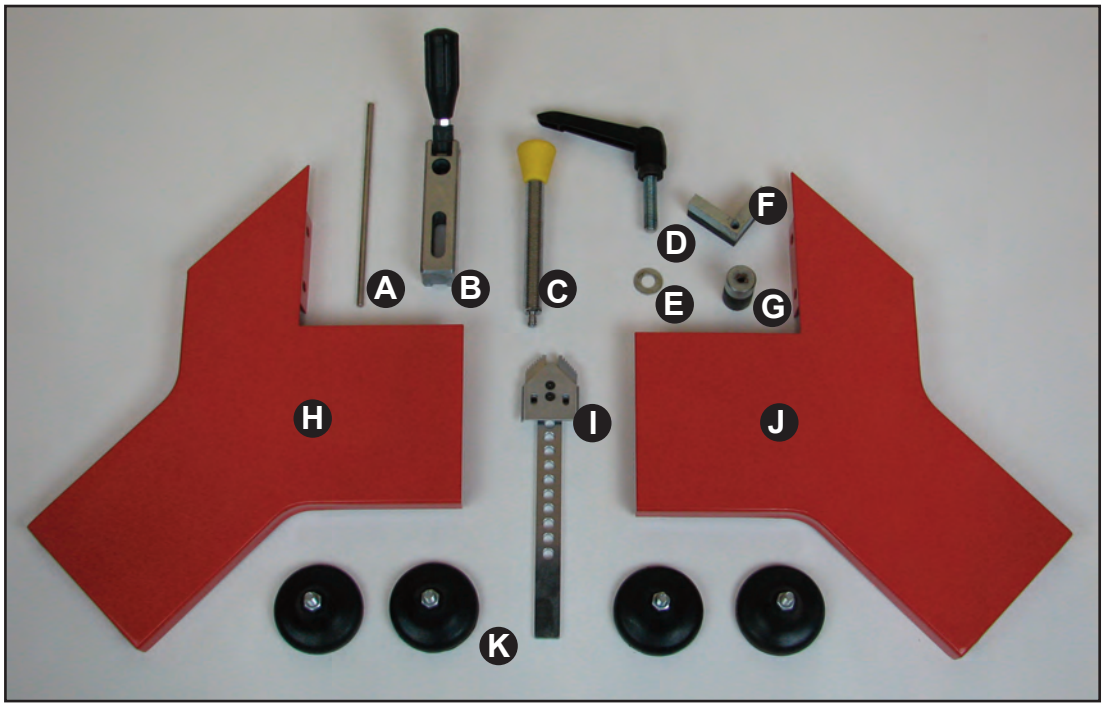
11. Maintain machine in good condition. Keep machine clean for best and safest performance. Follow instructions for lubrication and maintenance.

12. Disconnect the machine from power or source (or air supply) before servicing.

13. Do not use any power tools while under the effects of drugs, alcohol or medication.

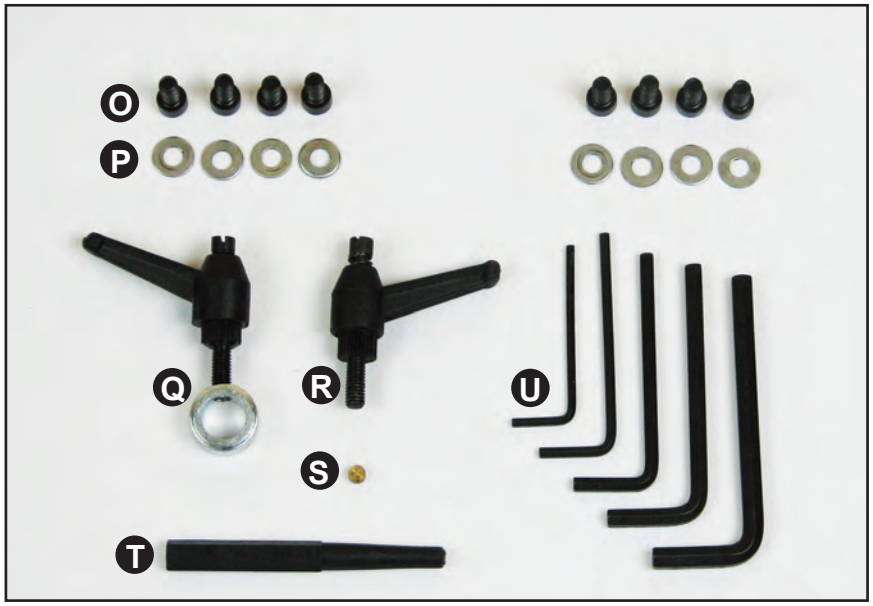
Unpacking Your Underpinner

Check the contents have arrived safely and all the components are present according to the list below.



Large Parts

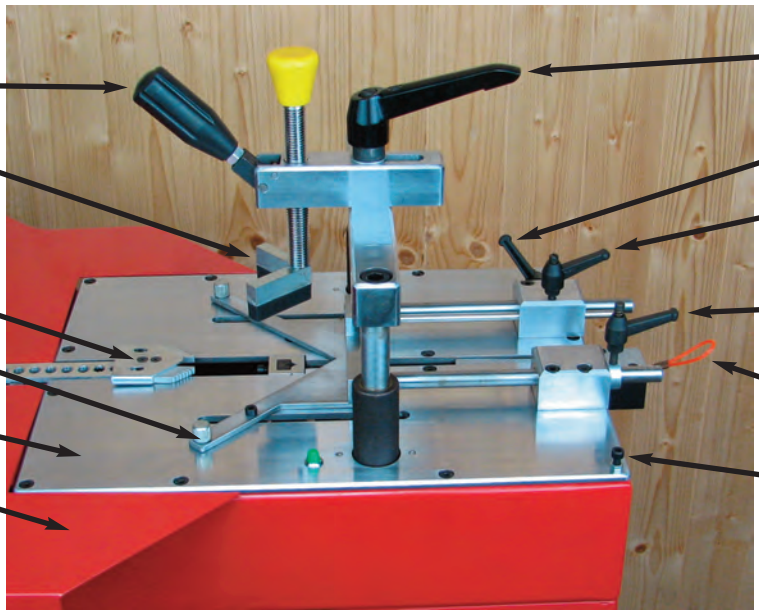
A) Front Stop Bar
B) Clamp Adjuster
C) Vertical Bar
D) Handle
E) Washer
F) L Shaped Pad
G) Round Pad
H) Left Table
I) Front Clamp
J) Right Table
K) Rubber Feet x 4



Small Parts

O) Cap Head Bolt x 8
P) Washer x 8
Q) Locking Collar
R) Locking Handle
S) Brass Nipple
T) Magentic Tool
U) Set of Hex Keys

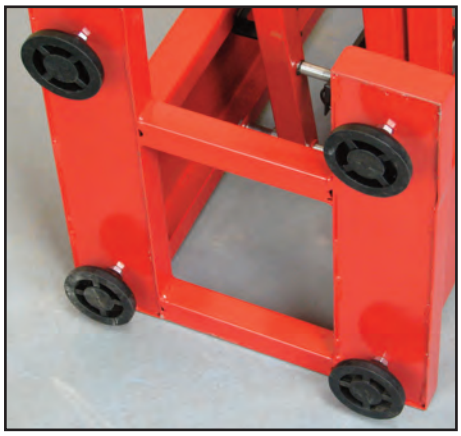
MAIN FEATURES OF THE M3 UNDERPINNER



ASSEMBLY INSTRUCTIONS

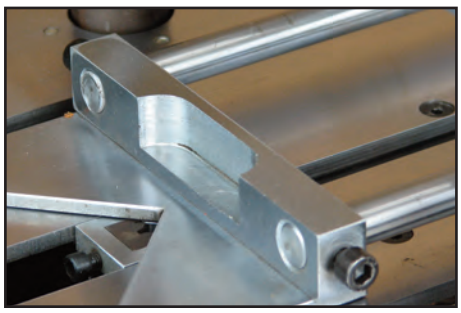
1) Fit the Rubber Feet

Screw 4 feet (K) into threaded holes in the base of the stand. The feet are adjustable in height. Use a 13mm spanner to tighten the locking nut, once the machine has been levelled.

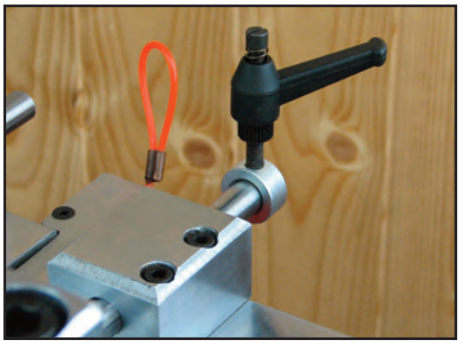


2) Assemble the Fence

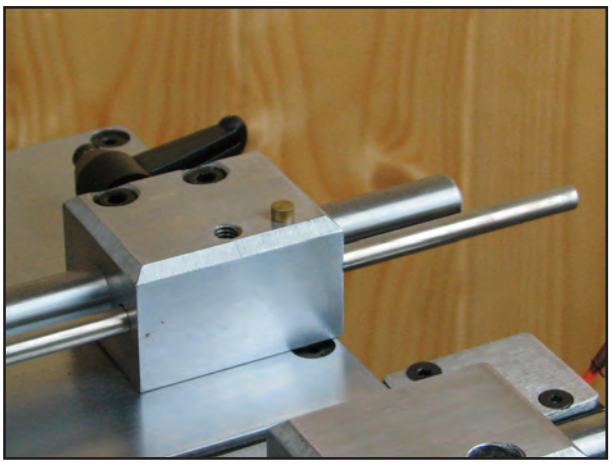
Unlock two cap head bolts using the Hex key supplied. Slide the fence forward until the two round guide bars are flush with the front of the fence bracket.



Fit the Handle and Locking Collar (Q) over the right hand fence bar.

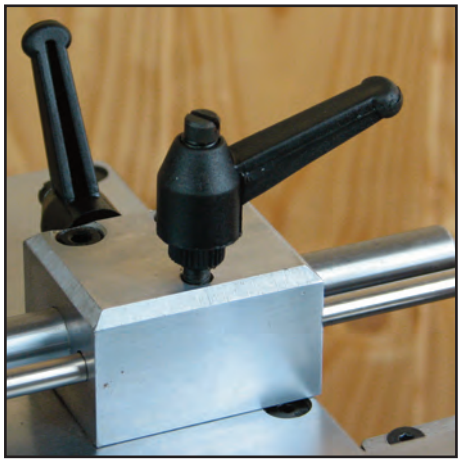


Insert the Front Stop Bar (A) into the hole in the fence block.

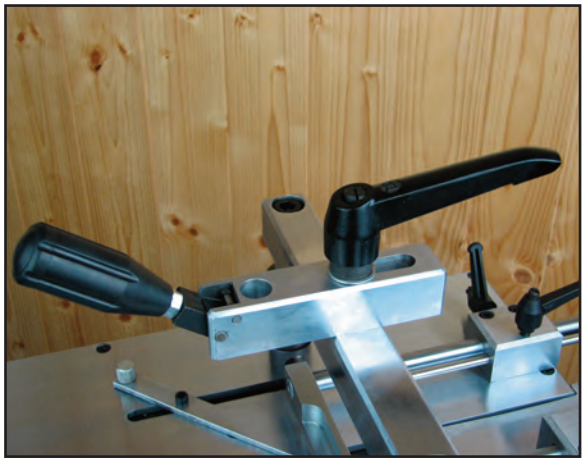


Place the Brass Nipple (S) into the threaded hole in the fence block.

Screw in the Locking Handle (R).

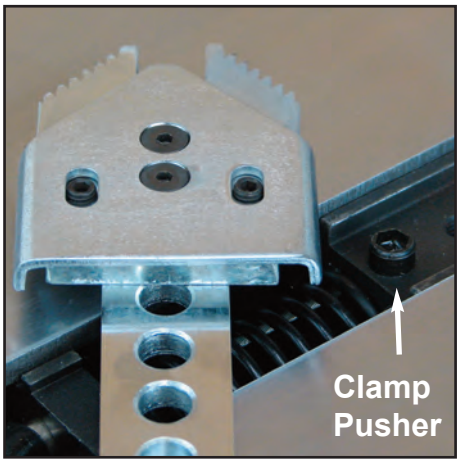


3) Assemble the Top Clamp
Fit the Clamp Adjuster (B) onto the bridge and secure in place with Washer (E) and Handle (D).

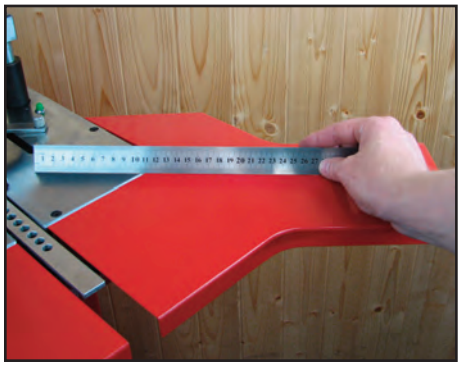


Push the adjusting handle upwards and insert, from above, the Vertical Bar (C).
Screw the L Shaped Pad (F) onto the end of the vertical bar.

4) Assemble the Front Clamp
Position the Front Clamp (L) so that one of the round holes aligns over the Clamp Pusher.



5) Assemble the Side Tables
Use 8 Cap Head Bolts (O) and Washers (P) to fit the 2 Side Tables (H&J).
Use a straight edge to set the level of the tables flush with the main table.

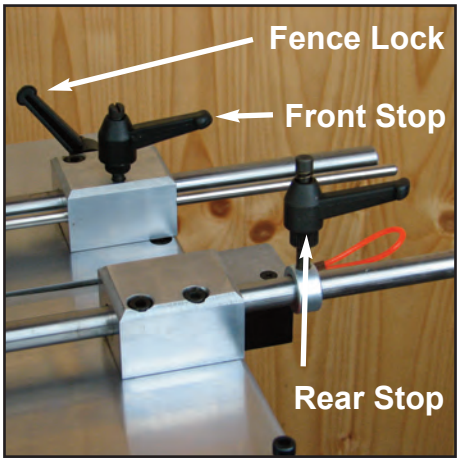


OPERATING INSTRUCTIONS

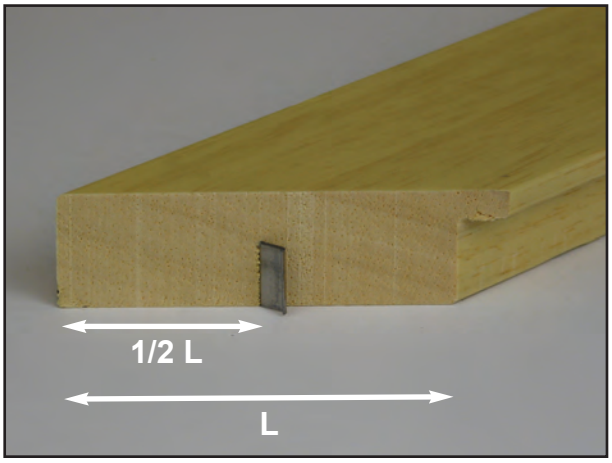
6) Remove the Footpedal Locking Clamp
For safety during transport the main pedal is locked down. Undo the handle and slide the Locking Clamp upwards, allowing the pedal to move up at the same time.

The Locking clamp can also be used to lock the footpedal half way down, This reduces the amount of travel required to insert a wedge and is sppeds up th epinning operation when working with small mouldings.

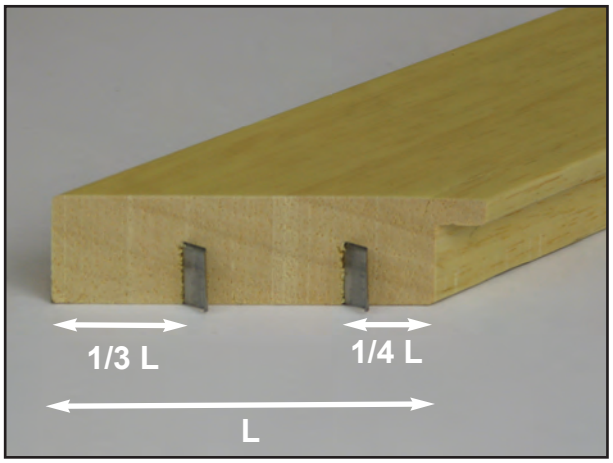
1) Set the Fence
The fence will slide smoothly forward and back. This allows wedges to be inserted into any position on the moulding.
The fence is fitted with a limit stop to set the front wedge position and a limit stop to set the rear wedge position.



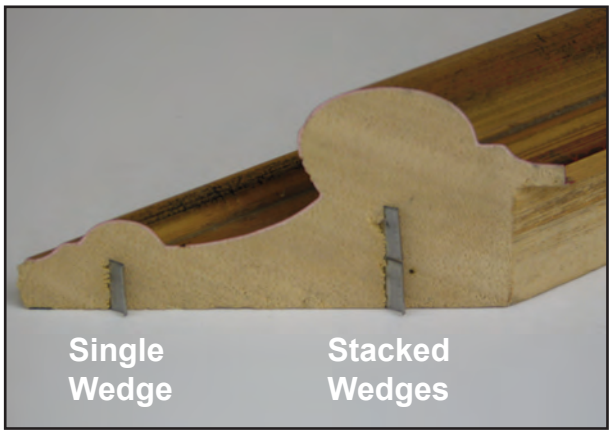
When inserting only one wedge into a corner, the position should be central.



When inserting 2 or more wedges into a corner the first position should be 1/4 distance from the front edge. The last position should be 1/3rd distance from the back edge.



There is also a lock to hold the current position. This is used when ‘stacking’ wedges. Stacking is the process of inserting multiple wedges in the same position. The second, and subsequent wedges, will drive the first wedge deeper creating a stack.
Using this method 2 x10mm high wedges will become a 20mm high wedge.

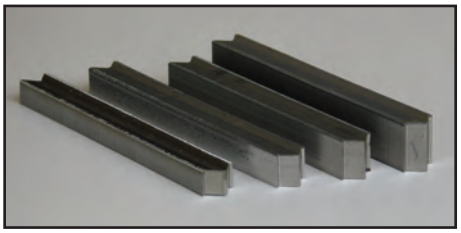


3) Select the Appropriate Sized Wedge

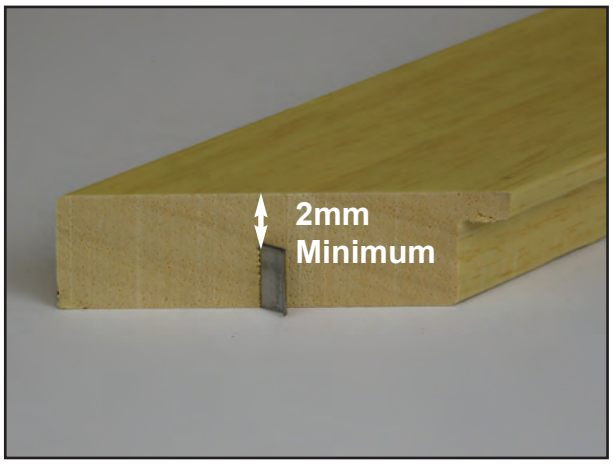
The M3 can use wedge (V-nail) sizes 7mm, 10mm, 12mm and 15mm.

Please Note: Only use **Genuine Framers Corner Universal** wedges 10.3mm Width, supplied in glued strips.

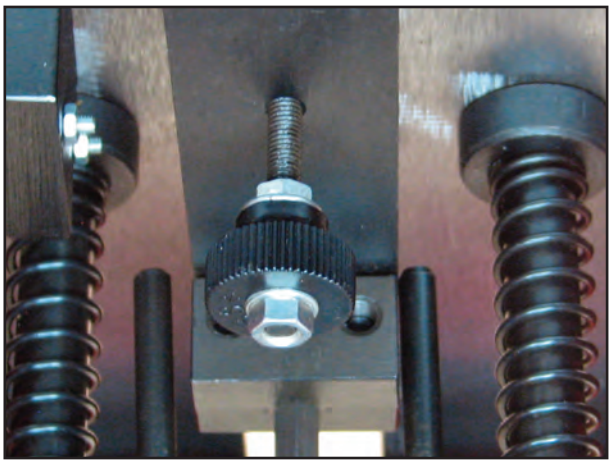
The warranty will be void if the wrong type Wedges are use.



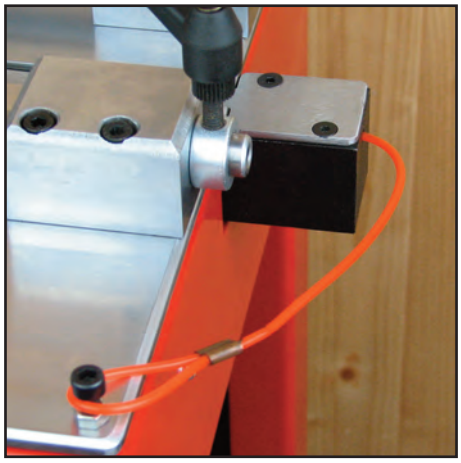
There must be a mimumum of 2mm between the top of the inserted wedge and the face of the moulding.



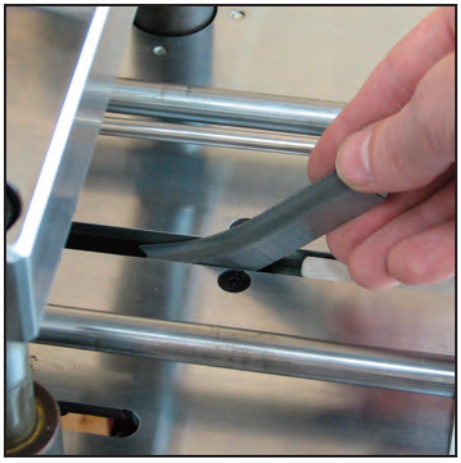
4) Load the Magazine
Adjust the height of the wedge magazine using the round knob located underneath the magazine.



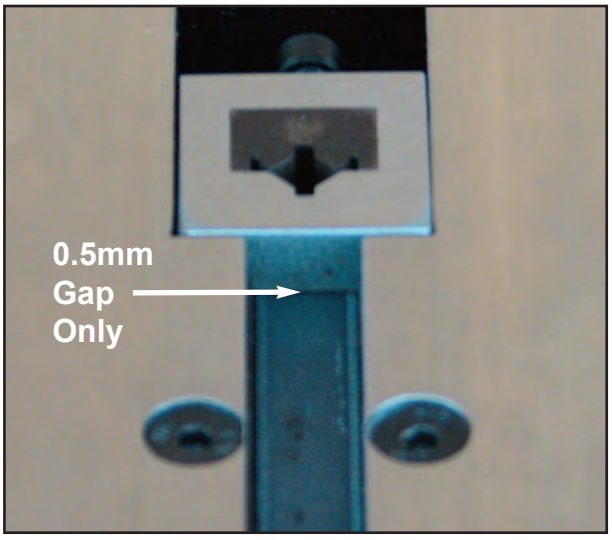
Pull back the nylon cord and hook the looped end over the anchor bolt.



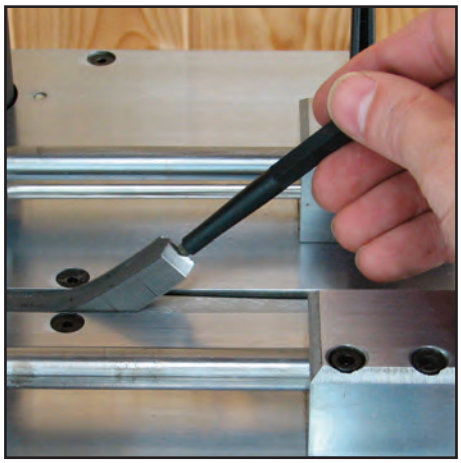
Insert a strip of wedges, sharpened side upwards. When using genuine Framers Corner Wedges, insert with glued side up.



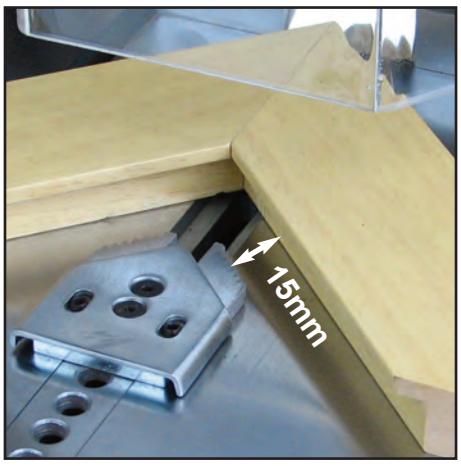
Unhook the nylon cord and gently let the spring push the strip of wedges into the magazine.
Use visual observation to confirm that the wedges slide under the cap with a gap of no more than 0.5mm.



To remove wedges from the magazine, reverse the proceedure.
Use the Magnetic Tool (T) to pull the partly used strip of wedges, out of the magazine.



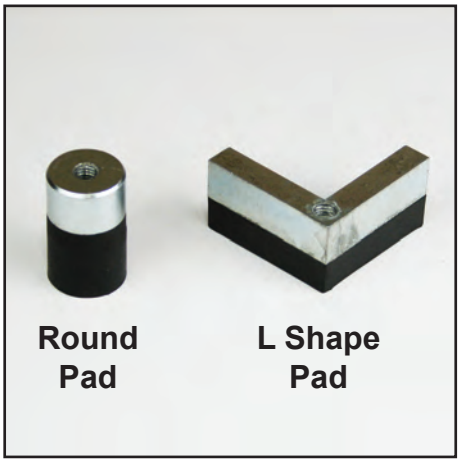
5) Set the Front Clamp
The front clamp grips the moulding by the rebate. The clamp holds the moulding securely even when moving from one wedge position to another. Place a piece of the moulding to be used against the fence. Press and hold down the right hand footpedal. The clamp pusher will travel backwards.
Fit the clamp over the clamp pusher, in such a way that tip of the clamp is within 15mm of the moulding.



Release the foot pedal and the clamp will move forward, gripping the moulding.
The tip of the clamp is desgined to allow for slight variations in the moulding width.

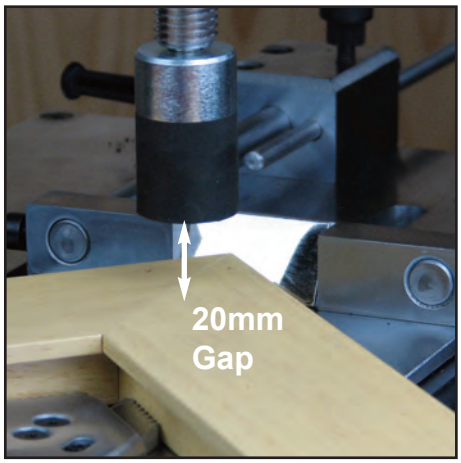
6) Choose the Appropriate Rubber Pad

The pinner is supplied with 2 rubber pads. For flat moulding the round pad is generally better. For profiled moulding with varying heights the L shaped pad is generally better.



7) Set the Top Clamp

It is important to set the height of the top clamp correctly. Place the moulding to be used against the fence. Set the gap between the lowest point of the moulding and the underside of the rubber pad to 20mm. To adjust the height, press down and hold the adjusting lever to release the clamping bar. Slide the clamp up or down as required. Release the clamp adjusting lever.



8) Insert the Wedge

With all the above settings made:

- Push the fence into the back position
- Press down and hold the right hand pedal
- Place 2 mitred pieces against the fence
- Release the right hand pedal
- Visually check the joint is tight
- Press the left hand pedal firmly all the way down until the green light comes on.

- Release the left hand pedal

If a second wedge is to be inserted;
Slide the fence and moulding to the next wedge position and use the left hand footpedal again. Do not press the right hand pedal until all of the wedges required have been inserted into the corner.

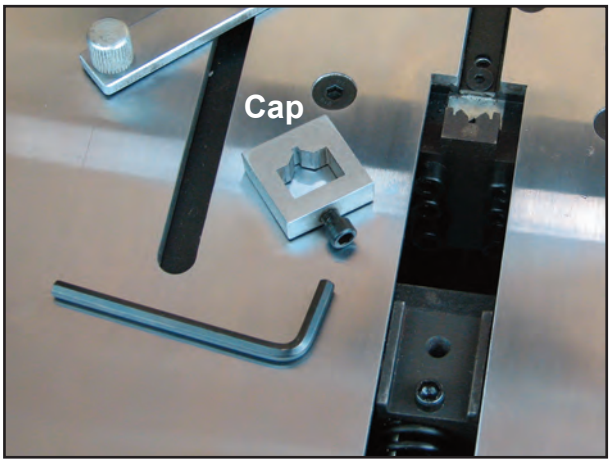
During the cycle the top clamp will travel down and contact the moulding, then the driver will push one wedge into the underside of the moulding.

Please note: It is recommended that a suitable glue is always used when making a frame. Apply a small amount of glue to one of the mitred ends before loading into the pinner. The glue will give the frame strength and ensure it lasts for many years.

ROUTINE MAINTENANCE

1) Cleaning
Clean any excess glue from around the wedge exit point.
Clean the top of the table using a silicone spray or similar product to allow the fence to slide smoothly.

2) Clearing a blockage
Occasionally, a wedge may get jammed in the magazine. It may be possible to pull the wedges out by hand. If it is firmly stuck, possibly half in and half out, It is highly likely that the driver will also be stuck in the raised position.



To clear a blockage; remove the cap, using the hex key provided. Once removed, the driver should drop back down and the jammed wedge can easily be removed.
When refitting the cap, ensure the top is flush with the surface of the surrounding table.

3) Replacing the Driver
The driver is the part which takes the most wear and will, one day, need replacing.

ii) Use a hex key to remove the Cap.
iii) Undo the hex bolt which secures the bottom of the driver to the driver holder.
iv) Push the driver up through the main table and remove it from the top.

When fitting the new driver ensure the V shape lip is uppermost, with the point of the V towards the back of the machine.
Before tightening the hex nut, ensure the driver is firmly pressed against the bottom of the holder.

4) Changing the Rebate Clamp Cable
i) Remove the 2 Cap Head screws (Part 15) which hold the Clamp Support Arm (Part 12)
ii) Remove the 2 Cap Head screws (Part 79) holding the Clamp Cast (Part 62) to the fence. Drop Clamp Cast down through the machine.
iii) Remove Guide Bar (Part 61) and carefully remove Clamp Block Spring (Part 82). This will release the Clamp Block (Part 81) allowing the Inner Cable to be removed from the Clamp Bock.
iv) Remove M6 nut (Part 2) on the bottom of the cable, were the cable passes through the Clamp Footpedal (Part 33)
v) Remove the M8 nut on the bottom of the Cable Adjuster (Part 3) where the cable passes through the bracket on the Floorstand (Part 1).
vi) Remove Inner and Outer Cable from Floorstand.
vii) Fit the new cable by reversing the instructions.
viii) Once the cable is replaced, the amount of movement of the Clamp Block (Part 81) must be checked. When the footpedal is fully depressed, the Clamp Block (Part 61) should move between around 20 mm.
ix) The amount of movement can be adjusted by the M6 (upper) & M8 (lower) nuts on the Cable Adjuster (Part 3)

CE Declaration CE

We declare that Manual Underpinner, Model M3 conforms with the following directives:

Machinery Directive 2006/42/EC

And further conforms with the following EU harmonized standard;

EN ISO 12100:2010

The equipment named above has been tested and found to comply with the relevant sections of the above referenced specification. The machinery complies with all essential requirements of the directive.

A copy of the declaration is available by contacting framers corner.

UNDERPINNER TROUBLESHOOTING GUIDE

Fault	Possible Cause	Remedy
Wedges are too wide to load into the magazine	Wrong type of wedges	Only Universal type 10.3mm wedges can be used
	Faulty wedges	Check with wedge supplier
No wedge is inserted into the moulding	The wedge magazine is empty	Reload the magazine
	Wedge feeder not engaged	Release the nylon cord
	Wedge is jammed in cap	Clear the blockage (see page 10)
Fence does not slide	Build up of dirt	Lubricate the two sliding fence bars (part no. 45)
Top clamp is marking the moulding	Wrong pressure pad fitted	Change to alternate shape pad
	Pressure pad is worn or damaged	Replace pad
Bad joint - Open joint	Bad mitre	Check mitring machine
	Moulding moving during pinning	Ensure the base of the moulding is flat
		Move the wedge position away from the back edge
Moulding is moving during pinning	Cap not flush with table	Remove cap and refit it (see page 10)
	Extension tables not flush with table	Reset the tables
	Top clamp not set correctly	Set gap between moulding and pressure pad to not more than 20mm
	Front clamp not set correctly	Set gap between moulding and clamp to not more than 15mm

UNDERPINNER TROUBLESHOOTING GUIDE

Fault	Possible Cause	Remedy
Wedges jam in cap	Wrong wedge size selected	Adjust the wedge magazine so the gap between top of wedge and underside of Cap is not more than 0.5mm (See page 8)
	Wedges loaded incorrectly	Ensure wedges are loaded sharpened side up (Glue side up)
	Excess build up of glue	Remove the cap and clean the mechanism
	The driver is damaged	Replace the driver
Wedges not fully inserted into moulding	Pedal stroke incomplete	Press pedal until gren light illuminated
	Top clamp not set correctly	Set gap between moulding and pressure pad to not more than 20mm
Wedges being driven in too deep	Driver limiter not set correctly	Reset the adjusting screws
Attempt at stacking fails	Fence is moving during cycle	Lock the fence when stacking (see page 7)
Stacking wedges break through side of moulding	Stack is too high	Use less or smaller size wedges
	Wedge position too close to edge	Move the wedge position away from the edge
	Wavy grain wood (particularly hardwood)	The wood species is not suitable for stacking
Wedge deforms when inserted	Hardwood	Use specific hardwood wedges
Driver does not return after cycle	Driver has come out of holder	Refit the driver into the holder (see page 10)
Top clamp does not return to start position	Top clamp not set correctly	Set gap between moulding and pressure pad to not more than 20mm

M3 Parts list No.1-General layout

Part No.	Part Code	Part Description
1	UP1124	Floorstand
2	F1016	2 x M8 Nut
3	UP1451	Cable Adjuster
4	F1009	M6 Adjustable Handle
5	UP1141	Footpedal Height Adjusting Bracket
6	F1016	4 x M8 Nuts
7	F1017	8 x M8 Washers
8	UP1125	Main Body
9	F1010	4 x M8 Hex Head Bolts
10	UP1132	8 x M5 Countersunks Screws
11	UP1128	LH and RH Top Plates
12	UP1134	Clamp Support Arm
13	UP1452	Cable and Outer Casing
14	See P8	Horizontal Clamp Assembly
15	F1006/7	2 x M5 Screws and Washers
16	F1010	4 x M6 Washers
17	F1011	4 x M6 Screws
18	UP1140	Right Hand Extension Table
22	UP1139	Left Hand Extension Table
23	UP1109	Long Link
24	F1018	2 x M8 Screws
25	UP1111	Foot Pedal Pivot/Spring Bar
26	UP1466	Foot Pedal Spring
27	UP1126	Bottom Spring Bracket
28	F1012	M6 Grub Screw
29	UP1117	Collar
30	UP1110	Foot Pedal Long link Bar
31	UP1100	Footpedal
32	F1051	2 x Circlip
33	UP1133	Clamp Footpedal
34	UP1137	Cable Clamp
35	F1011	M6 Screw
36	F1006	M5 Screw

M3 Parts list No.2-Operating Head

Part No.	Part Code	Part Description
37		Lock lever M8x40
38	F1022	2 x M10 Sockel Head Screws
39	UP1114	2 x Trunnion Bar
40	F1013	4 x M6 Socket Head Screws
41	UP900	Left Hand Fence Block
42	UP1121	Fence Slop Bar
43	UP1116	Fence Collar
44	UP901	Right Hand Fence Block
45	UP1120	2 x Fence Bar
46	F1013	M6 Sockel Head Screw
47	UP1132	Right Hand TopPlate
48	F1005	6 x M5 Countersunk Screws
49	F1021	2 x M8 Countersunk Screws
50	UP1107	Light Switch Brackel
51	UP1453	Light Switch
52	F1025	2 x M5 Cap Head Screws
53	F1019	M8 Hex Head Bolt
54	F1017	2 x M8 Washer
55	F1023	2 x M12 Washers
56	F1024	2 x M12 Sockel Cap Head Screws
57	UP1103	Bottom Cross Bar
58	UP1105	2 x Pusher Connecting links
59	UP1113	Fulcrum Lever
60	F1019	2 x M8 Hex Head Screws
61	UP1136	Guide Bar
62	UP1127A	Clamp Cast
63	F1015	2 x M6 Nuts
64	F1010	2 x M6 Washers
65	F1003	M4 Grubscrew
66	UP1102	Driver Push Plate
67	-	Not used. Replaced by 2 x M5 Hex Head Bolts
68	UP1106	Driver Holder
69	UP1104	2 x Pusher Guide Rod
70	UP957	Driver Support
71	UP899	Fence Brackel
72	F1004	2 x M5 Grubscrew
73	F1008	6 x M5 Hex Head Screws
74	UP806	Bearing Housing
75	UP640	Round Pad Base
76	UP1119	Vertical Pressure Bar Long
77	UP1123	Top Pressure Bridge
78	UP1132	Left Hand Top Plate
79	F1013	2 x M6 Sockel Cap Head Screws
80	UP496	2 x Fence Knob
81	UP1131	Clamp Block
82	UP1456	Clamp Block Spring
83	F1014	2 x M6 Countersunk Screws
113		Roll pin 4x30
114		Roll pin 6x30
115		Handle
116		Flat washer 12mm
117		Spring
118		Holder arm
119		Flat key

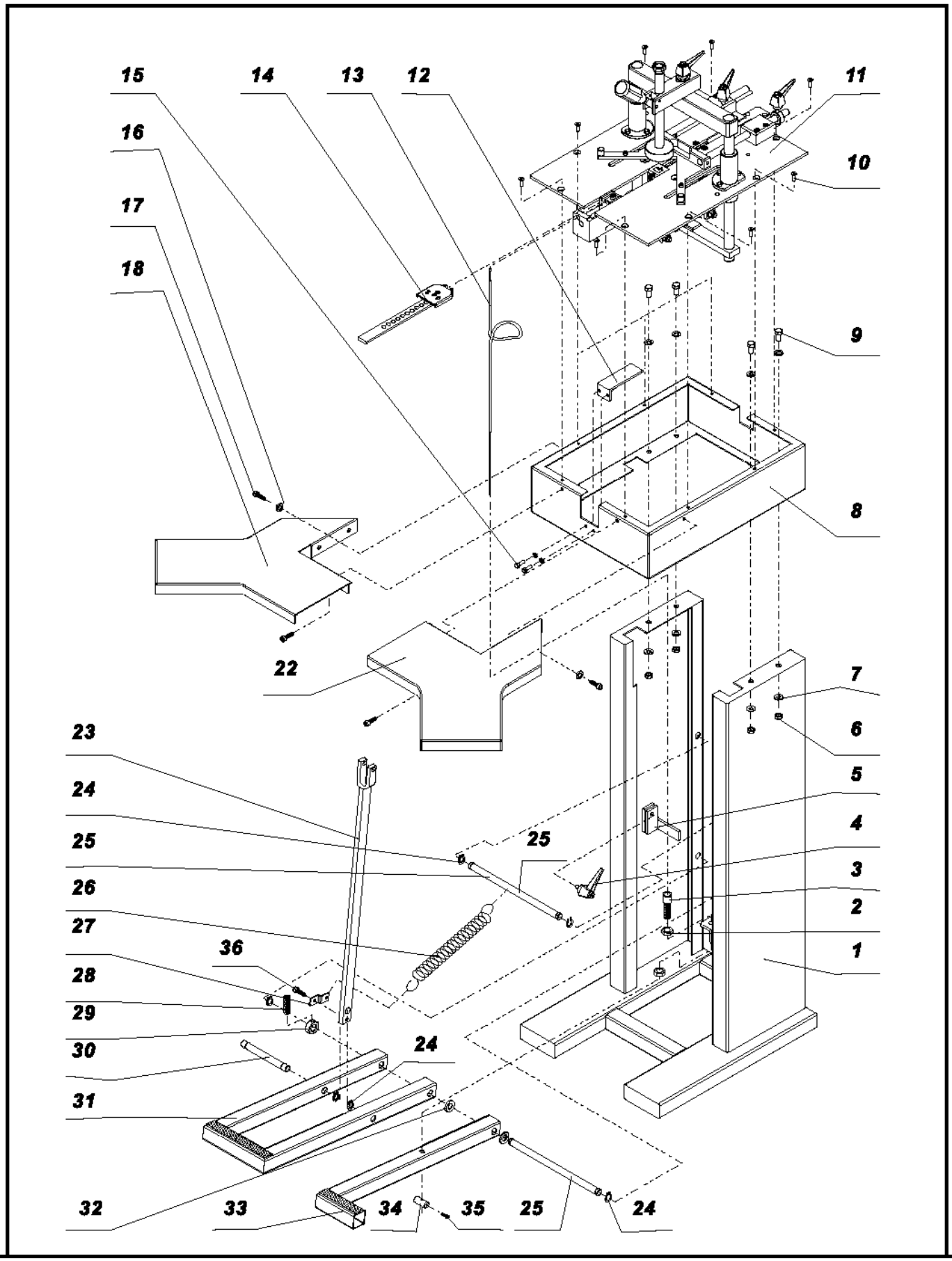
M3 Parts List No. 3 - Magazine

Part No.	Part Code	Part description
84	F1001	6 x M4 Socket Cap Head Screws
85	UP956	Noseplece
86	UP948	Wedge Pusher
87	F1004	M5 Grubscrew
88	UP955	Cap
89	F1002	M4 Countersunk Screw
90	F1003	M4 Grub Screw
91	UP949	Spring Retainer
92	UP1457	Magazine Cord Spring
93	UP928	Wedge Support
94	UP1458	2 x Wedge Support Springs
95	UP1459	Wedge Support Steady Bar
96	UP1460	Wedge Platform Height Adjusting Screw
97	UP966	Magazine Cover Plate
98	F1002	2 x M4 Countersunk Screws
99	UP1461	Magazine Cord
100	UP954	Magazine Body
101	UP957	Driver Support
102	UP678	Driver
103	F1015	M6 Nut
104	UP1462	Wedge Platform Adjusting Knob

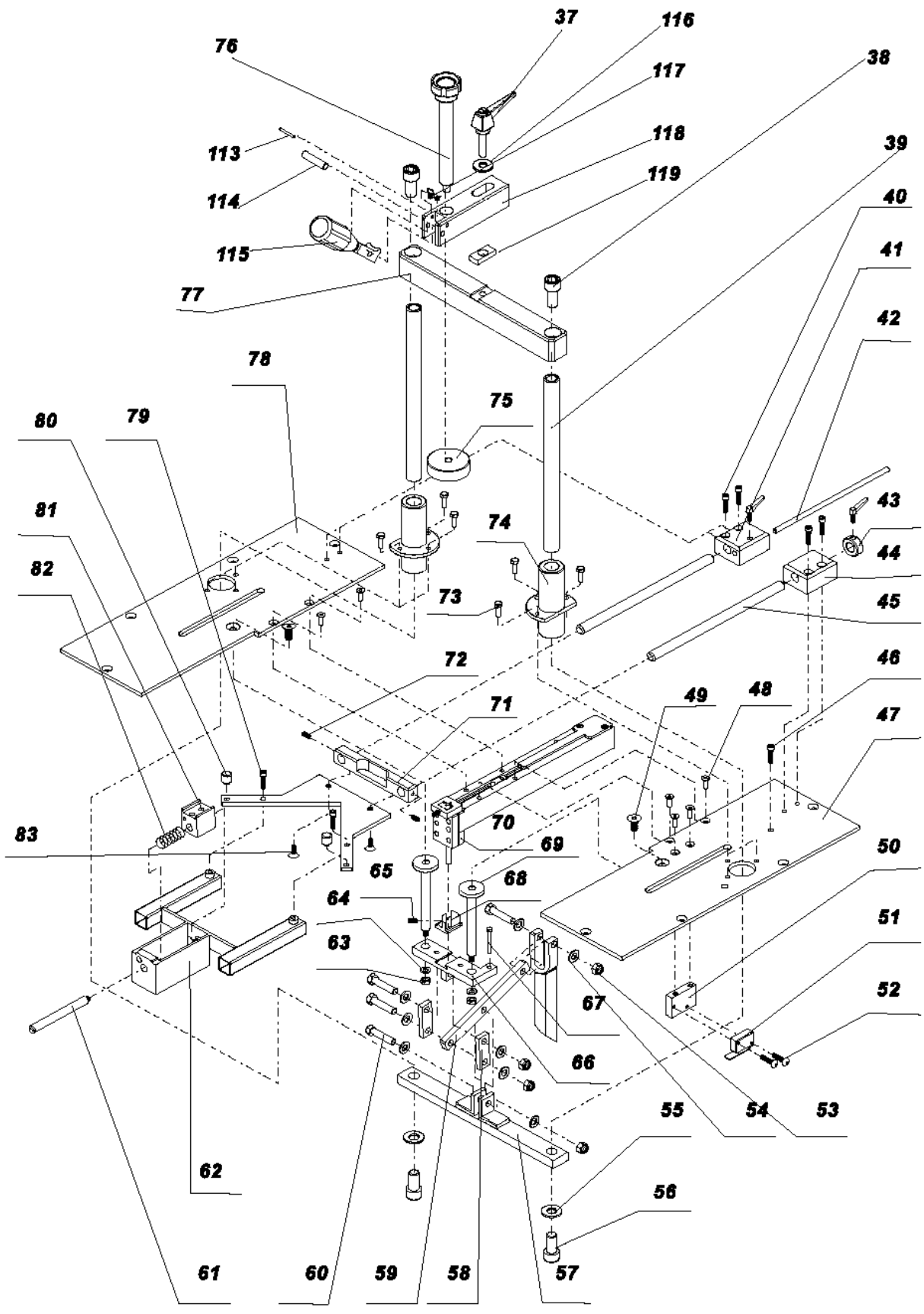
M3 Parts List No. 4 - Horizontal Clamp

Part No.	Part Code	Part Description
105	UP1130	Horizontal Clamp Bar
106	UP609	Jaw Pivot
107	F1013	M6 Socket Cap Head Screw
108	UP611	2 x Jaws
109	F1001	2 x M4 Socket Cap Head Screws
110	F1002	2 x M4 Countersunk Screws
111	UP608	Jaw Cover
112	UP610	Centre Piece for Jaw

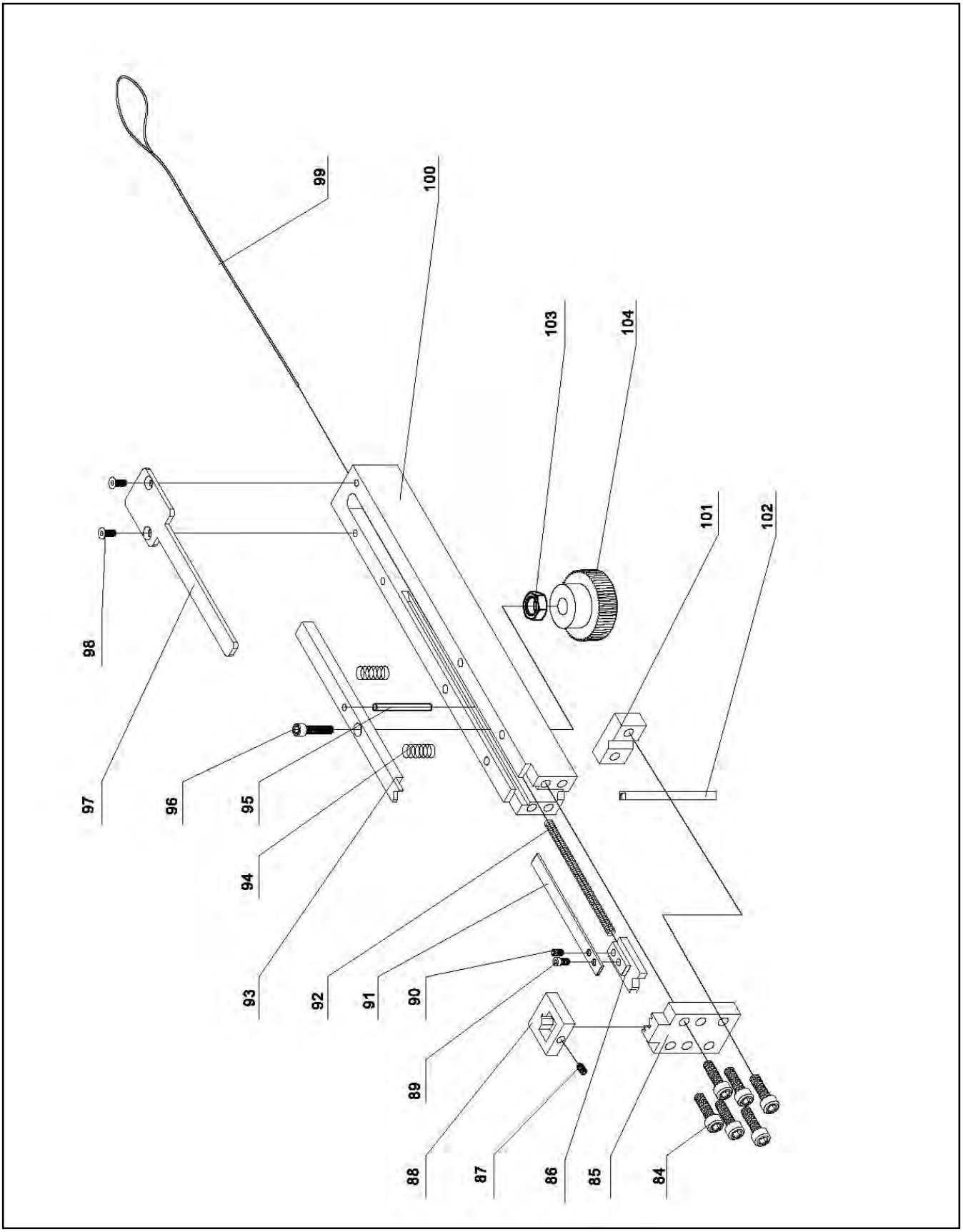
M3 Exploded View No.1
General Layout



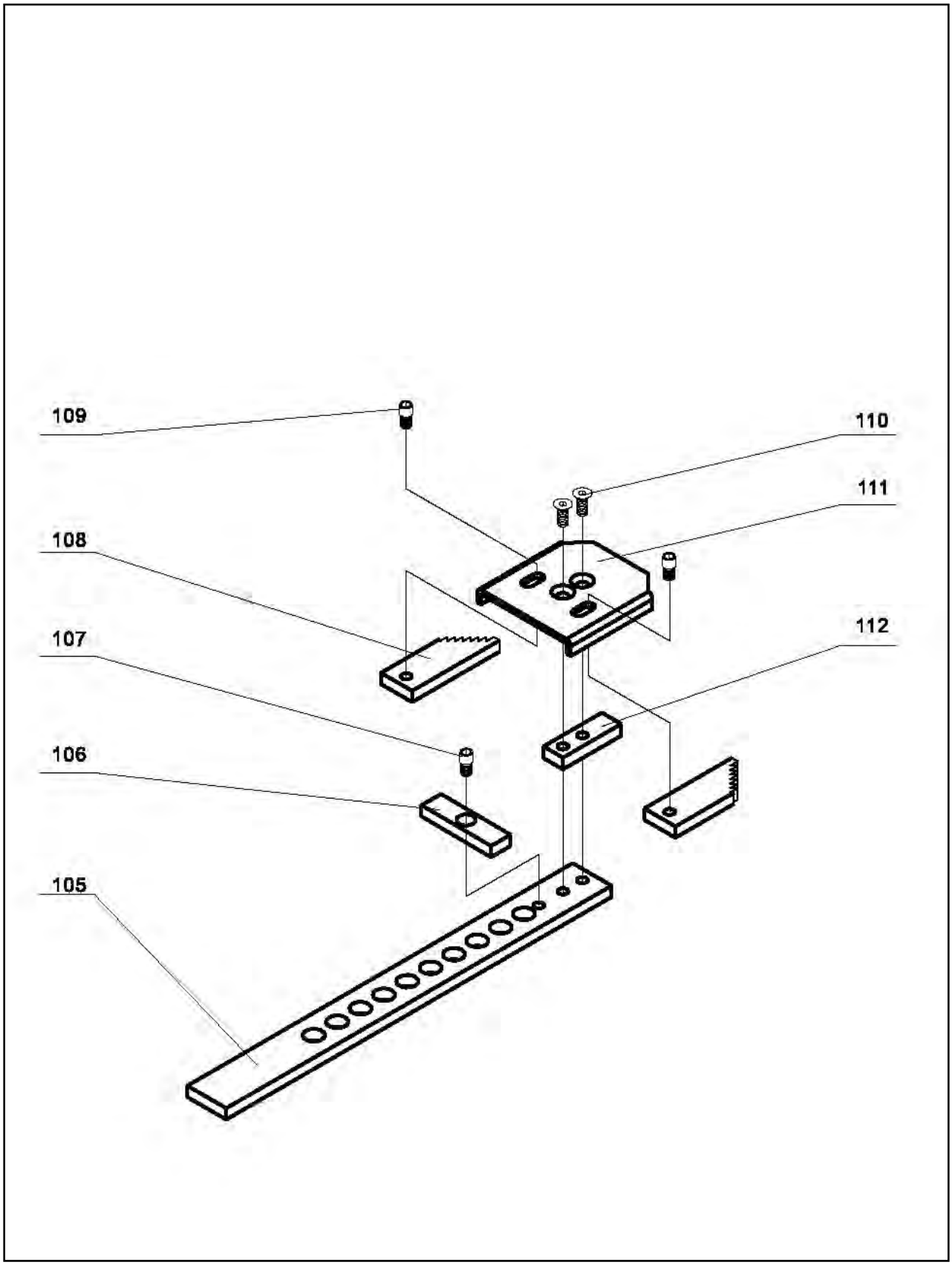
M3 Exploded View No.2
Operating Head



M3 Exploded View No.3
Magazine



M3 Exploded View No.4
Horizontal Clamp



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